L&T Technology Services launches NVIDIA-powered AI lung digital twin platform

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Enhanced precision in lung navigation and surgical planning

L&T Technology Services (LTTS), a global leader in AI, Digital & R&D Consulting Services, has announced its next-generation, AI-powered digital twin platform for lung navigation, surgical planning and respiratory diagnostics.

The platform combines LTTS' industry-leading MedTech expertise across medical imaging, AI-driven diagnostics, and connected healthcare systems with NVIDIA AI infrastructure to enable greater precision and enhanced outcomes.

LTTS' lung digital twin solution integrates directly with CT imaging workflows and leverages deep learning models to reconstruct a comprehensive 3D digital twin of the lungs. This redefines visualization of critical anatomical structures including airways, blood vessels, lung lobes, and lesions, enabling clinicians to explore patient-specific lung anatomy in an immersive digital environment and simulate procedural pathways for bronchoscopy and biopsy planning.

The platform is powered by NVIDIA Physical AI infrastructure, including:

- NVIDIA Omniverse and OpenUSD for interactive 3D digital twin visualization of lung anatomy and supporting immersive exploration of complex structures,
- NVIDIA TensorRT to drive optimized AI inference performance across high-speed clinical workflows, and
- NVIDIA MONAI to enable advanced medical image segmentation, enabling automated identification of airways, vessels, tumors and lung lobes.

LTTS' scalable digital twin platform transforms static CT scans into dynamic, simulation-ready lung models, allowing clinicians to analyze anatomical relationships, plan surgical pathways and navigate bronchoscopic procedures with enhanced accuracy. The framework also supports advanced visualization, automated segmentation, volumetric analysis, and navigation path planning, helping clinicians reduce pre-operative planning time and improve overall procedural safety.